NEW AND LITTLE-KNOWN LEPIDOPTERA FROM KENYA AND UGANDA.

By V. G. L. VAN SOMEREN, F.R.E.S., F.L.S.

As I have already dealt with the groups to which the following insects belong (with the exception of the Lycaenids), and as it will be some considerable time before the opportunity arises for revision, I have thought it advisable to publish this short paper now.

ACRAEA MIRANDA, Riley. Pls. 1 and 2, figs. 5 and 6.
Ref.: *Entomologist*, 1920.

This species was described as long ago as 1920, but was not included in Seitz' Macrolepidoptera, African Section, Rhopalocera; and I overlooked the species when, in 1925, I published the section dealing with the Acraeas of Kenya and Uganda.

The description was based on a small series collected by the late F. C. Selous near the " Gwasi Nyeri " (probably at Archer's Post on the Northern Guasso Nyiro) in 1912, and others taken at Namanga, on the Kenya-Tanganyika border, in 1916. In 1928, the British Museum received additional material from Merille on the Marsabit road, and a female from Berbera in Somaliland.

The material which I have examined was taken by Mr. J. P. de Verteuil, in a dry river bed 20 miles south of Muddo-gashi (half-way between the Lorian Swamp and the Tana River). About a dozen specimens were taken, and of these a pair were presented to the Museum.

It will be observed that the species has a fairly wide distribution, but it is remarkable that it has not occurred in the numerous large collections which have passed through my hands during the last ten years.

The insect is very distinctive, both above and below, and should not be easily overlooked.

A brief description is as follows:—

MALE.—General colour bright orange-red with black borders. F.-w. ground colour bright orange-red to brick-red; narrowly black along the costa and outer margin, with the black extending up the veins in gradually increasing length from the hind-angle to the apex. Sub-apex with an oval ochreous transverse " bar " reaching from the costa to vein 4, this patch outlined with black proximally and accentuated distally by a black patch filling the ground of areas 4-5 contiguous to the ochreous mark. At the end of the cell is an oblique black line crossing the bases of 4 and 5. H.-w. ground colour as fore, with the underside

pattern showing through. There is a small black dot toward the base of the cell. Marginal border black with an extension up along the veins, so that the inner edge of the border has a dentate appearance. The distal half of the abdomen is white; basal half black with white bars.

Underside: F.w. orange pink. The black line at end of cell is repeated as also the ochreous sub-apical bar, outlined with black proximally, but distally bordered with a greyish patch; the ends of the veins are very narrowly black on greyish. The margin of the wing is narrowly black. H.-w. with a very distinctive pattern on an ochreous ground; base of wing crossed by a narrow black line; pinkish-red marks are present at base of 8, 7, and 1c. Cell with a black dot sub-basally; the disc of the wing crossed by a pinkish-grey curved band outlined in black which starts at mid point on costa, passes through the apex of the cell, then toward the inner fold where it extends upwards in 1a. Then follows a band of the ochreous to naples-yellow ground and beyond this the wing carries a wide border of orange interrupted by greyish lines along the veins, and sharply cut distally by a sub-marginal black line beyond which the border is greyish ochreous. The wing fringe is white. The underside of the abdomen is ochreous.

FEMALE.—Somewhat like the male, but not so reddish-orange, and the black of fore- and hind-wings not so intense. The abdomen is orange-ochreous with black and white bars to each segment, and with a dorsal black line.

The undersurface is very much as in the male, but the pinkish orange is less strong on the discal curved band.

ACRAEA CONRADTI, Oberth. Pls. 1 and 2, figs. 1—4.

Originally described from the Usambara Hills in Tanganyika Territory, and also recorded from Nyassaland, this species has not hitherto, to my knowledge, been taken within the Kenya boundaries.

A small series has now been obtained from the Teita Hills from the forests of Wandanyi and Mbololo; it also occurs less plentifully on Bura.

MALE.—General colour rich brick-red with black apices and borders.

F.-w. ground colour brick-red for the basal half to as far as the end of the cell then to the hind angle where it stops short of the black border which again is continuous with the black of the distal half of the wing and along the costa. There is a slight reddish scaling in the base of 3. There is a transparent sub-apical bar crossing about the centres of 4-6. There are blackish inter-nervular streaks from 2 to the apex.

H.-w. ground colour brick-red, slightly dusted over the base with blackish scaling; marginal border broadly black, with the inner edge angled at 5, and bluntly serrated by extensions of the black along the veins and less so in the interspaces. The base of the wing carries black spots as follows: three spots cross the base of the wing, in 1a, sub-base of cell, and sub-base of 7. Then follows a double row: two in 1a, two in 1b set rather distad, then two large ones in 1c, followed by two large ones, one in the cell and one at the base of 2; then two small ones at base of 4, one at base of 5, one in 6, then a larger one sub-costa in 7. The inner margin of the wing is yellowish, over 1a and 1b.

Underside: Orange basal area as above but duller; the distal half of the wing is greenish-ochreous with blackish along the veins and with narrow blackish inter-nervular streaks.

H.-w. ground colour orange-ochreous over the disc, slightly more greenish over the base and over marginal border; black spots as above but more pronounced but the border is blackish only along the veins with the internervular blackish streaks widest proximally and tapering off distally and not reaching the edge which is narrowly black.

The males have a superficial resemblance to *Ac. baxteri* which also occurs on the hills, but they lack the basal black on the hind-wings found in that species (fig. 2).

FEMALE: The ground colour of the fore- and the hind-wings is a semi-translucent pinkish-orange; the distal portion of the fore-wing is less strongly scaled with black than in the male more particularly in the bases of 3-5 so that the sub-apical transparent bar appears wider. The black spotting of the hind-wing is as in the male with additional spots at the base of 4 and sub-base of 5. The marginal border, however, differs from that of the male; the black is limited to black scaling along the veins widest at the margin and tapering proximally, with the inter-nervular black streaks smaller and reversed.

Underside: F.-w. as above but duller and the marginal border and apex more greyish with slightly orange internervular streaks. The hind-wing is more yellowish than above especially along the inner fold and on the border. The black spotting is similar to above but more distinct, whilst the border streaks are slightly less heavy. Fig. 1 represents a normal female, whilst figs. 3 and 4 are slightly aberrant as shown; in the one there is a reduction of black spots and markings; in the other, an increase.

LYCAENIDAE.

PSEUDALETIS BUSOGA. Sp. nov. Pls. 1 and 2, fig. 11.

This species was submitted to Prof. Poulton in 1931. It was not represented in the British Museum, or in the Hope

Department at Oxford; nor could it be matched with specimens in Tring or in the Hill Museum. (G. Talbot.)

It bears a strong superficial resemblance to *Aphniolaus pallene* for which it was at first mistaken in the field. It was obtained at Jinja, Uganda, in 1931, and has remained unique.

DESCRIPTION: FEMALE.—General colour creamy white with slight yellow to ochreous suffusion at the base of the fore-wing and along the hind edge. A large black spot is present at the apex of the cell. The fore-wing is narrowly edged with black and for a short way along the costa. The hind-wing is less narrowly black edged with a slight yellowing at 1c; two fine black tails are present, one on vein 1b, the other on 2. The abdomen is strongly yellow above, greyish below, and with long brownish hairs on the anal extremity.

Underside: Similar to above, but with an additional black spot in the fore-wing at mid in 4; the anal angle of the hind-wing is more definitely yellow and carries two small black spots on either side of the lower tail.

Distribution: Only known from Jinja, Uganda. Type, female, March, 1931, in my collection.

STUGETA BOWKERI KEDONGA. Subsp. nov. Pls. 1 and 2, figs. 9 and 10.

DESCRIPTION: The points of greatest value are on the underside.

FEMALE.—Differs from the race *mombasae,* Btlr. (which has a very whitish underside) in having a much darker marginal border to fore- and hind-wings; in having the fore-wing dark, post-discal band wider throughout especially in areas 1b-6 so that the inner edge is not so notched by the white ground in 3 and 4.

In the hind-wing the dark discal band is darker and wider and fills the areas enclosed by the brown lines in 1b and 2.

On the upper surface, the blue is darker, and there is a reduction in the size of the white markings in 2 and 1b of the fore-wing, and those of the hind-wing in areas 3-6.

The males differ in a corresponding fashion; the dark areas being greater above and below.

Distribution: I have now taken and bred a considerable number of this race from that portion of the Rift Valley stretching from the Ngong Escarpment to Lake Naivasha. The differences are constant throughout the series of twenty-odd examples and cannot be matched by topotypical *mombasae,* from the coast belt of Kenya, inland to Teita. Type, female, Ngong Escarpment, Dec., 1937, in my collection. Para types, ten females.

Figs. 7 and 8 of Plates 1 and 2 depict the race *mombasae.*

CHARAXES DESMONDI. Sp. nov. Pl. 3, figs. 1 and 2.

This species was submitted to Prof. Carpenter, who writes as follows: " Your specimen is not like any of the *brevicaudatus* in the British Museum—indeed it is not like any *cithaeron!* The narrow orange margin to the hind-wing and the black-centred tails are very peculiar, and the underside markings are different in detail. It looks like another species."

This interesting new charaxes is described as follows:

MALE.—Fore-wing rich deep blue-black, with slightly bluer reflections basally. A narrow blue streak at base of 5; below this a larger spot in 4, then a more rounded one sub-basal in 3; with another directly below in 2. There is a long blue streak in 1a, two spots in 1b, sub-marginal and smaller spots in 2-4 followed by spots of increasing size and white in colour in 6-7. On the edge of the wing are orange spots, two in 1b, then one each from 2-7. Hind-wing blue-black with a blue discal patch, sharply defined above and distally and only slightly paler toward the inner fold where the long hairs are greyish to buff at the anal angle.

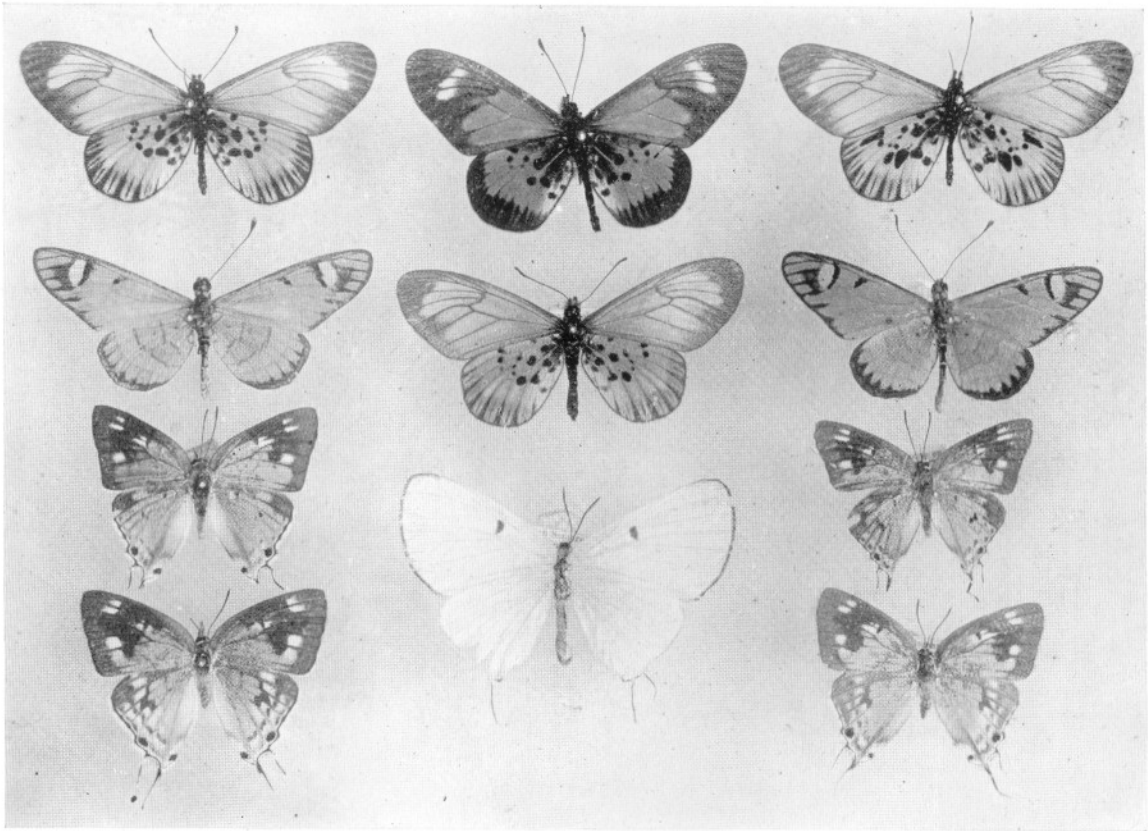
This blue patch, much bluer than in *cithaeron,* extends on its upper edge to the middle portion of 6, reaching to the base of 5, then through the apex of the cell. The outer edge is defined and slightly indented by the black scaling extending for a short way up the veins. There are very small blue internervular spots along the sub-margin to 6, and all along the edge, from the anal angle to 7 is a marked orange line discontinuous only at the veins. The two tails are relatively short and entirely black.

It will be observed therefore that the main point of difference between this new species and *cithaeron* are: the reduction in and the darker blue of the fore-wing spots; the darker blue of the hind-wing patch; the almost black border with very small spots which are not continued round the upper angle of the wing; the dark orange *parallel-sided* marginal line; and the black tails.

Underside: Ground colour olive brown, less brown than in *cithaeron.*

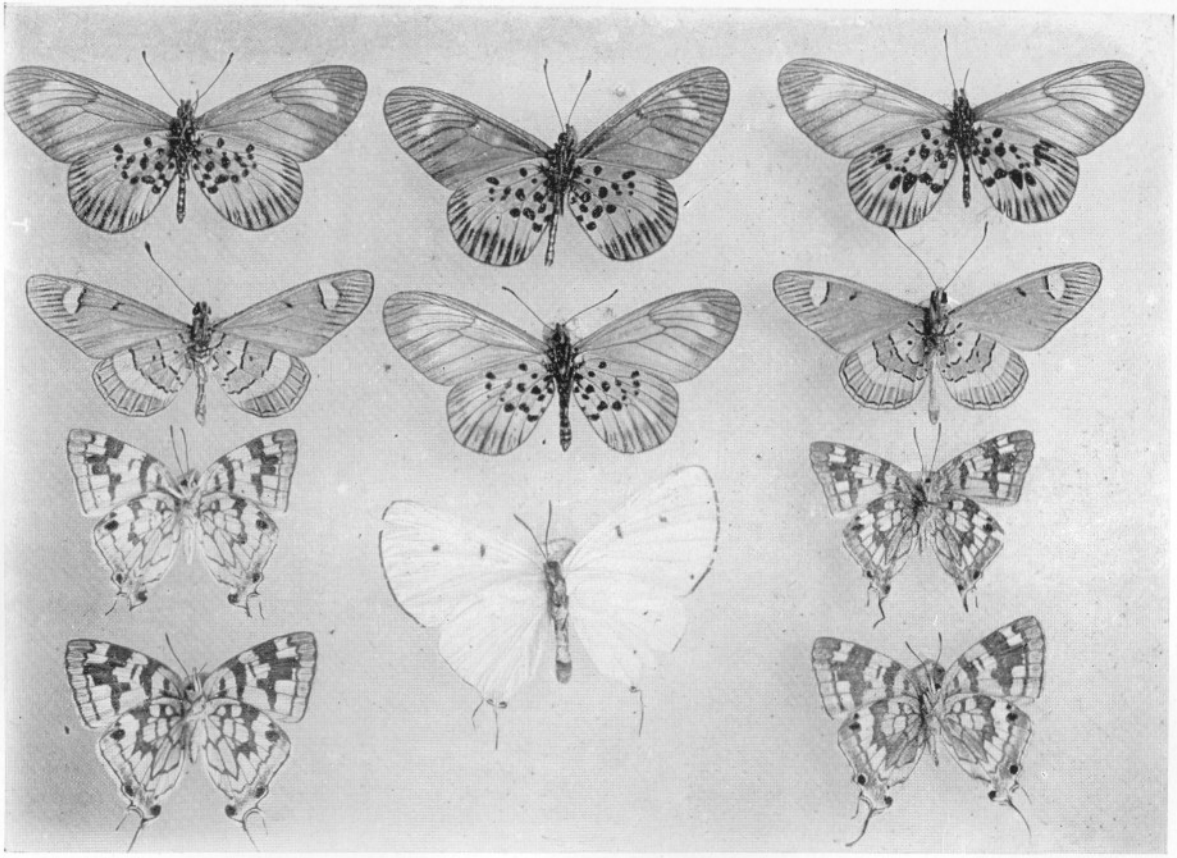
F.-w. olive-brown shading to dark grey on the hind margin in area 1a, and more strongly golden in the cell. The cell is crossed by three blue-black white outlined bars; at the end of the cell are two narrower black lines. There is a small black spot at root of vein 2, a crescentic mark at base of 2; there are three U marks in the post-discal area, one indistinct in 1b, one in 2 and the third in 3, slightly white-lined distally. The " eye-spot " in 1b is golden proximally, mauve distally and carrying

PLATE 1.



Upper surfaces.

Figs. 1, 3 & 4. *Acraea conradti* Oberth. ♀; Fig. 2, male *Ac. conradti*.
Figs. 5 & 6. Male and female *Acraea miranda* Riley.
Figs. 7 & 8. *Stugeta bowkeri mombasae*. Btlr. male and female.
Figs. 9 & 10. *Stugeta bowkeri kedonga*, van S. Male and female.
Fig. 11. *Pseudaletis busoga*, van S. Female.



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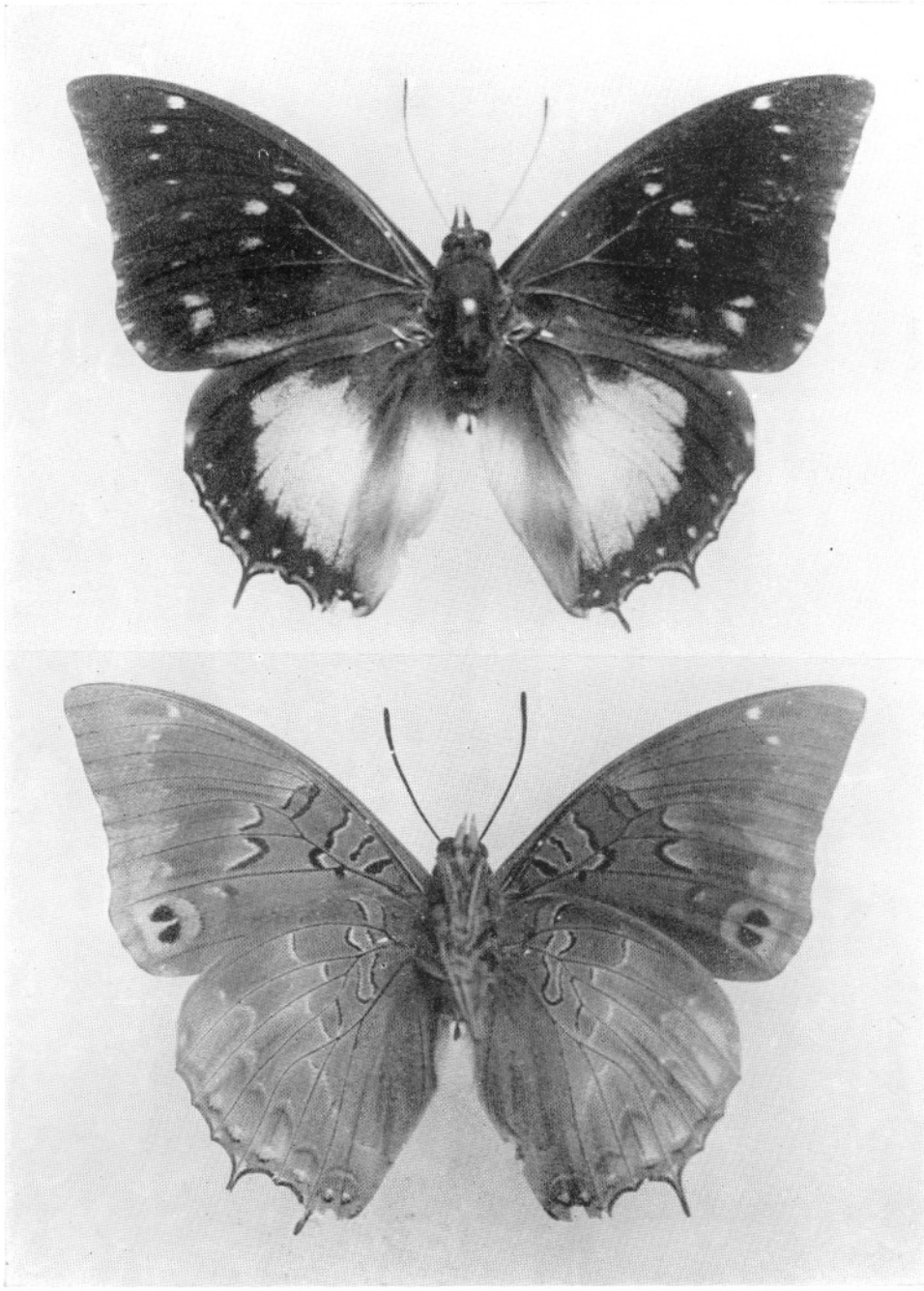
Under surfaces.

Figs. 1, 3 & 4. *Acraea conradti* Oberth. ♀; Fig. 2, male *Ac. conradti*.
Figs. 5 & 6. Male and female *Acraea miranda* Riley.
Figs. 7 & 8. *Stugeta bowkeri mombasae*. Btlr. male and female.
Figs. 9 & 10. *Stugeta bowkeri kedonga*, van S. Male and female.
Fig. 11. *Pseudaletis busoga*, van S. Female

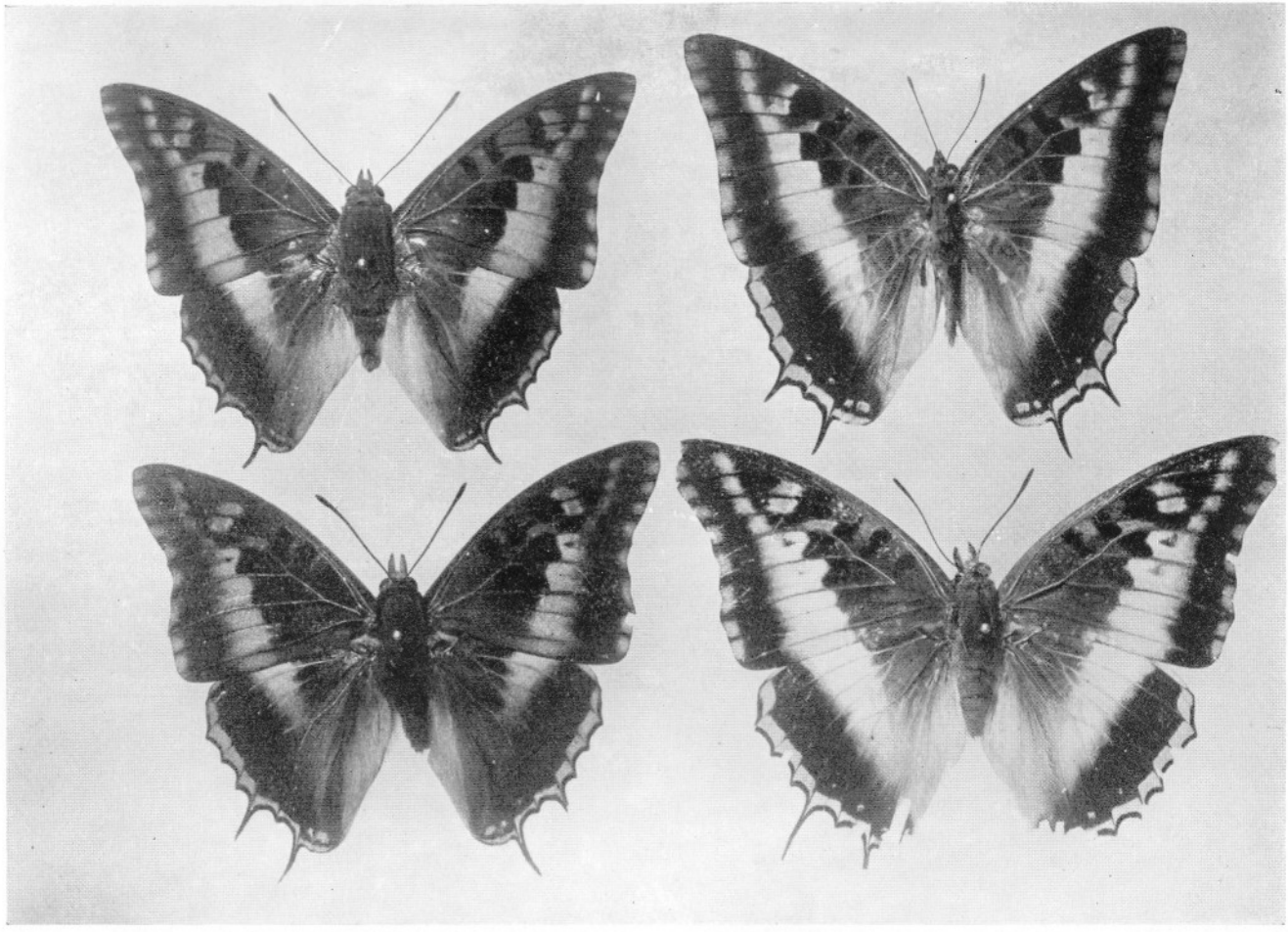
PLATE 3.



Figs. 1 & 2. *Charaxes druceanus proximans*. J. & T. (upper surfaces, male and female.)

Charaxes desmondi van-S.
Upper and under surfaces. (Male.)

PLATE 4.



Figs. 1 & 2. *Charaxes druceanus proximans*. J. & T. (upper surfaces, male and female.)

two blue-black ovate spots; there is a golden spot in 2, 3, 4, 5, then white ones in 6 and 7. The margin is golden shaded, especially internervularly.

H.-w. ground colour olive-brown. Two fine black lines cross area 8 toward the base; two at base of 7, a constricted U crosses the cell obliquely. A very faint whitish line crosses the disc, just internal to the mid-point in 7, through the sub-base of 6 thus set inward, then through the sub-base of 5, through the base of 4, the sub-base of 3, thus distad to the one above, and then passing obliquely to the inner fold above the anal angle. There is then a sub-marginal series of V marks extending from 1b to 7, that in 6 set in somewhat. The marginal golden to orange line is again more parallel than in *cithaeron* but the blueish-mauve spots just internal are more strongly marked, double at the anal angle, and extending up to 5.

F.-w.: There is thus a difference in the underside of the two species, the most marked one being the position of the spot and crescentic mark in at the root of vein 2, not distal to it, and the mark in area 2 being set in toward the base and not reaching the root of vein 3 as in *cithaeron*. The third line in the cell is placed more proximally, thus away from the two lines at the end of the cell. In the hind-wing the lines which pass through the cell and the sub-base of 7 are more approximated to each other and nearer the base.

The female is at present unknown.

In attempting to discover the relationship of this insect to *cithaeron* and *xiphares nandina*, I have made dissections of the genitalia of all three. It was not surprising to find hardly any difference either in " wet " or dry preparations. In *cithaeron*, the penis is armed with two spines, one at the proximal third, the other at the junction of the distal and mid third. In *desmondi* there is only one projection with double short spines at the proximal third (measuring from the end of the penis sheath).

Distribution: The Teita Hills, Wandanyi-Mbololo Forests.

Type: Male, October, 1938, 5,000 feet; in the Coryndon Museum. Taken at fermenting sap from a wound in a tree. Para-type, one male.

CHARAXES DRUCEANUS TEITA. Subsp. nov. Pls. 4 and 5, figs. 3 and 4.

This race of *druceanus* has been represented for many years by a female taken by Canon Rogers, on the Teita Hills, and tentatively associated with the race *kivuanus*. It is in the Hope Department, Oxford University Museum.

I have now examined some twelve males and four females, and have no hesitation in accepting them as representing a race, distinct from either *kivuanus* or *proximans* the Kenya highland form, or *moereus* of Transvaal. A representative pair were submitted to Prof. Carpenter, who writes as follows: " The *druceanus* is also a problem. I could not match it in the British Museum. . . . The female from Bura differs from *kivuanus* by the broader pale band on the forewing, which is also darker than in *kivuanus;* indeed the Bura specimen, in colour of the band, is like a Natal specimen in the Hope Department. On the underside, the silver, and anal markings are nearer to *kivuanus* than *proximans* or to *moereus,* Jordan, from Transvaal. On the sub-apex of the fore-wing, the pattern of light and dark is more like that of *kivuanus* than *moereus,* i.e. the end of the black wedge on vein 5 is in contact with the black patch in area 4 and through this with the more proximal patch on the costa at the end of the cell. In *moereus* the distal triangular blade (inverted) is isolated at its apex which does not quite reach vein 5. . . . The male in some ways (deep colour) is like *moereus,* but it is more purple. I have seen no male with such a rich purple gloss. Its subapical fore-wing markings, like those of its female, differ from *moereus.*"

DESCRIPTION: Female (type) differs from *proximans,* J. & T., by the different formation of the light fore-wing bar which in its broad area through 1a to 3 is wider, extending more proximally, and in its distal portion through areas 4-7 is narrower, more defined, and straighter on its distal edge. This narrowing is in part accounted for by the greater size of the inverted triangular black patch, which with its base on the costa extends down to 5 and is then continuous with the well defined large black spot in area 4, which again links up with the large black mark beyond the end of the cell, thus entirely enclosing the yellow mark in areas 5 and 6. The black transverse bar at the end of the cell is quadrate. The marginal black border is blacker and more defined. There is some similarity between this Teita race (females) and *kivuanus,* hence the previous association of Rogers' specimen with that form, but the fore-wing band is darker and broader.

Underside: This is more boldly patterned; the black marks are larger and more extensive, and the dark chestnut areas are darker than in *proximans.* The cell bars, and the black marks at bases of areas 1b-3 are darker, those in 2 are coalescent.

Male (co-type) differs in much the same directions as the female described above. It is very much more richly coloured than any other race and has a very strong purple bloom throughout the basal areas of the fore-wing. The marginal black

PLATE 5.

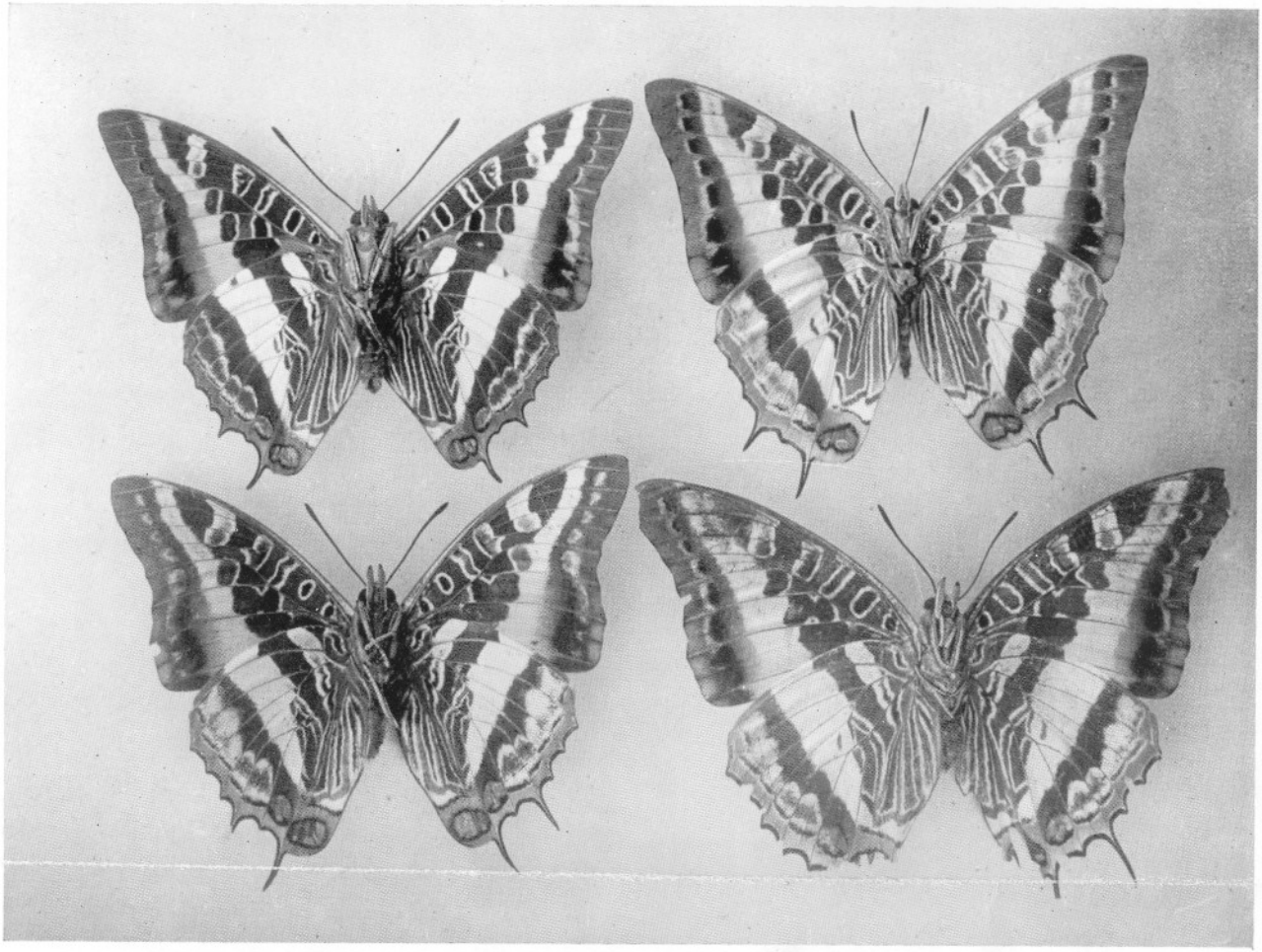
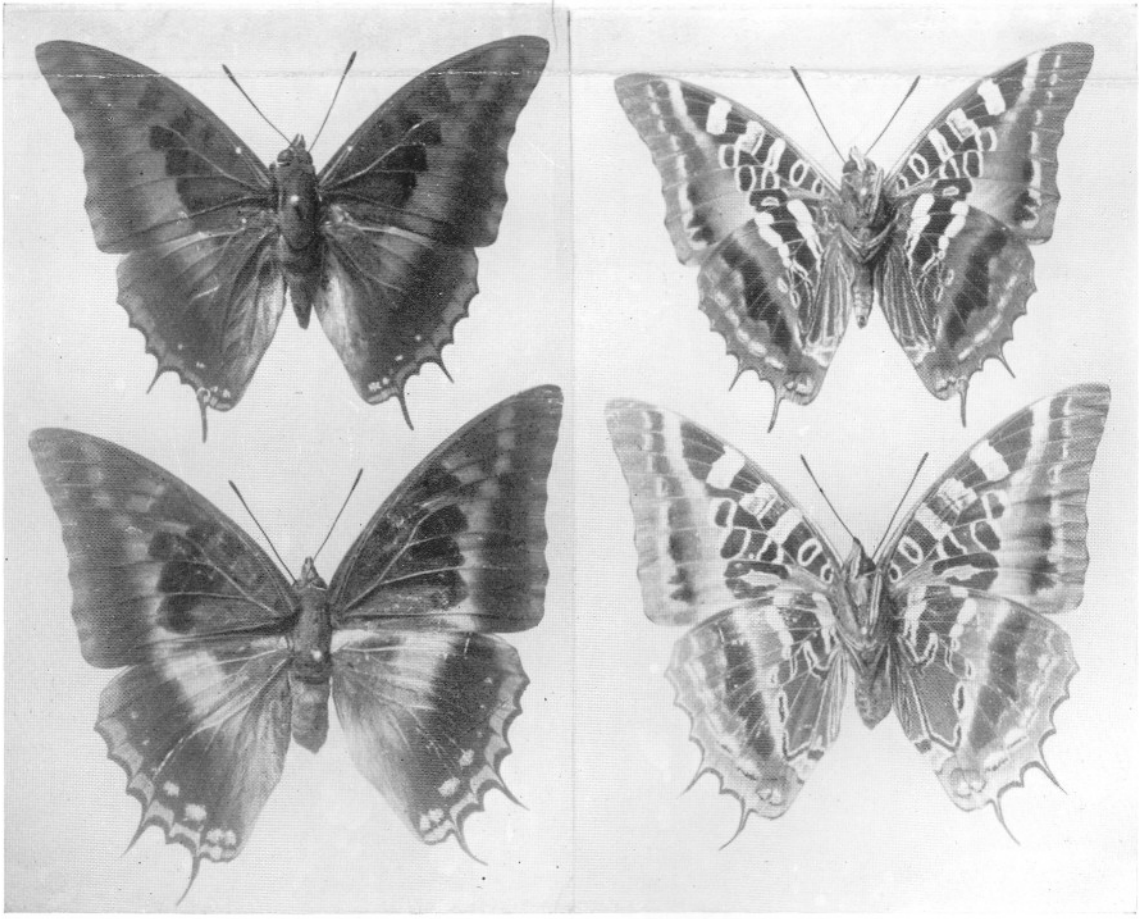


Plate 5. Undersurfaces.
Figs. 1 & 2. *Charaxes druceanus proximans*. J. & T. (Male and female, undersurfaces.)
Figs 3 & 4. *Charaxes druceanus teita* van-S. (Male and female, undersurfaces.)

PLATE 6.



Figs. 1 & 2. Male, *Charaxes druceanus proximans* var. nov. *lugari*, van-S.
Figs. 3 & 4. Female, *Charaxes druceanus proximans* var. nov. *lugari*, van-S.

borders of fore- and hind-wings are stronger and more defined. On the underside there is the same intensification of colour which gives a bolder pattern than in *proximans*. (Plates 4 and 5; figs. 1 and 2 are typical *proximans*.)

Distribution: The Teita Hills, from Bura, Wandanyi, and Mbololo. October, 1938, and again February, 1939. Paratypes: five.

CHARAXES DRUCEANUS PROXIMANS var. *LUGARI* f. Nov. Pl. 6, figs. 1-4.
and *CHX. ALICEA,* Stoneham.

I take this opportunity of referring to the specimen of Charaxes described by Stoneham as *alicea* (not alicia) as mentioned in Jrnl. E.A. & U. No. 55-56, Vol. XII, p. 178, and figured on Pl. 18). I recorded this as a variation of *druceanus,* on a report made by T. H. E. Jackson, after having seen the type. It is true, that in the original description Stoneham stated that it might possibly be a variety, but nevertheless designated it a species. Under letter dated April 30th, 1936, Col. Stoneham writes that he " followed the usual practice of describing it as a species till it had been bred and its affinities proved."

The specimens which are now before me exhibit on the underside such a variation from the normal, carried to the extreme in *alicea,* as would suggest at first sight that we are dealing with distinct species, i.e. distinct from *druceanus*. However, these two examples suggest a transitional stage toward *alicea,* so far as the underside is concerned, in that the pronounced silver bar characteristic of *druceanus* is lacking, the insects therefore have a more extensive chestnut colouration on that surface.

The two specimens, a male and female, bred by R. T. Evans at Lugari, and presented to the Museum, indicate very well indeed those portions of the silver which are more fixed, and perhaps more primitive.

Thus we find that in the fore-wing, the two black transverse spots in area 2 and that in 3, are outlined completely by silver, whilst the " bar " is pale chestnut to orange. In the hind-wing we find that the " bar " is represented by three silver spots in 6-8.

The similarity of colour in these two sexes is very striking.

As regards the upper surface, the male exhibits a reduction in dark markings, even along the border of the fore-wing and less deep chestnut at the bases. The fore-wing " bar " appears to branch into three, from area 4, for the sub-costal black marks are widely separate.

In the female, the most noticeable feature is the reduction in the width of the fore-wing " bar " brought about by the

increase in size of the black marks toward the bases of areas 2 and 3, and by the presence of a conspicuous large double spot in 1b. Furthermore the bases of 5 and 6 are largely black, but the inverted " costal triangle " beyond is not strongly black. The hind-wing sub-marginal blue spots up to 3 are large and conspicuous.

It would seem therefore, that within the Trans-Nzoia district, there is a tendency for two species, *druceanus* (*proximans*) and *eudoxus* (*cabecus*) to appear without the characteristic silver " bars " on the lower surface. That this is not a chance mutation is suggested by the fact that in one family four such specimens as I have described above were reared from eggs laid by a parent of this type; and again, in the case of *cabecus*, a family of nine *amaurus* were reared from eggs of an *amaurus* female. We are compelled, however, to consider both these divergencies from the nominate types to be variations, probably genetical, as the nominotypical forms also occur in the same areas. It remains to be shown whether in a large family of either species, some offspring will show lines, others not.

A BAT NURSERY.

A short while ago I paid a visit with Mr. G. H. E. Hopkins, the Uganda entomologist, to one of the Elgon caves. The object of the expedition was to collect bats of as many different species as possible and to determine the parasites of each. Incidently they were found to harbour fleas and mites of many different species and several dipterous parasites. In the course of our investigation using an electric torch, we came across a congregation of a small dark coloured bat *Miniopterus natalensis arenarius*, Heller, numbering some hundreds, clustered thickly together over a natural dome in the roof of the cave. They measured about 3 ft. in circumference and completely hid the rock. A stick was thrown up among them scattering the colony and there below clinging to the rock surface was a seething mass of youngsters, pink, naked, and hairless. In a short time the adults returned and covered them again. It would be interesting to hear if this has been observed before.

T. H. E. JACKSON.